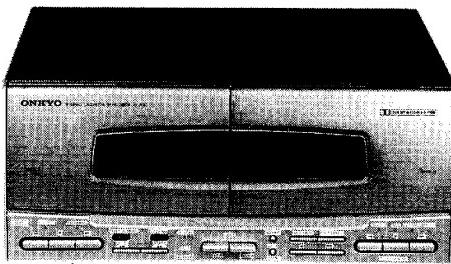


# ONKYO SERVICE MANUAL

## STEREO CASSETTE TAPE DECK MODEL K-W30



Black and Silver model

UDN, UDC, UD	120V AC, 60Hz
UP	230V AC, 50Hz
UW	120 or 220V AC, 50/60Hz
UQA	240V AC, 50Hz

**SAFETY-RELATED COMPONENT WARNING!!**

COMPONENTS IDENTIFIED BY MARK △ ON THE SCHEMATIC DIAGRAM AND IN THE PARTS LIST ARE CRITICAL FOR RISK OF FIRE AND ELECTRIC SHOCK. REPLACE THESE COMPONENTS WITH ONKYO PARTS WHOSE PARTS NUMBERS APPEAR AS SHOWN IN THIS MANUAL.

MAKE LEAKAGE-CURRENT OR RESISTANCE MEASUREMENTS TO DETERMINE THAT EXPOSED PARTS ARE ACCEPTABLY INSULATED FROM THE SUPPLY CIRCUIT BEFORE RETURNING THE APPLIANCE TO THE CUSTOMER.

S/N Ratio:

20 ~ 17,000Hz (Metal)  
(30 ~ 16,000Hz ±3dB)

Dolby NR off: 58dB (metal position tape)

A noise reduction of 10dB above 5kHz and 5dB at 1kHz is possible with Dolby B NR.

A noise reduction of 20dB at 5kHz is possible with Dolby C NR.

Line IN: 2

Input sensitivity: 300mV

Input impedance: 50 kohms

Line OUT: 2

Standard output level: 500mV (0dB)

Optimum load impedance: over 50 kohms

Input Jacks:

Outputs:

Motors:

DC servo motor x 2

Heads: REC/PB:1

PB: 1

ERASE: 1

Power Supply Rating:

European models:

AC 230V, 50Hz

U.S.A. and Canadian models:

AC 120V, 60Hz

U.K. and Australian models:

AC 240V, 50Hz

Worldwide models:

AC 120V and 220V switchable, 50/60Hz

Power Consumption: 18watts

Dimensions: 275 (W) x 116 (H) x 313 (D) mm  
(10-13/16" x 4-9/16" x 12-5/16")

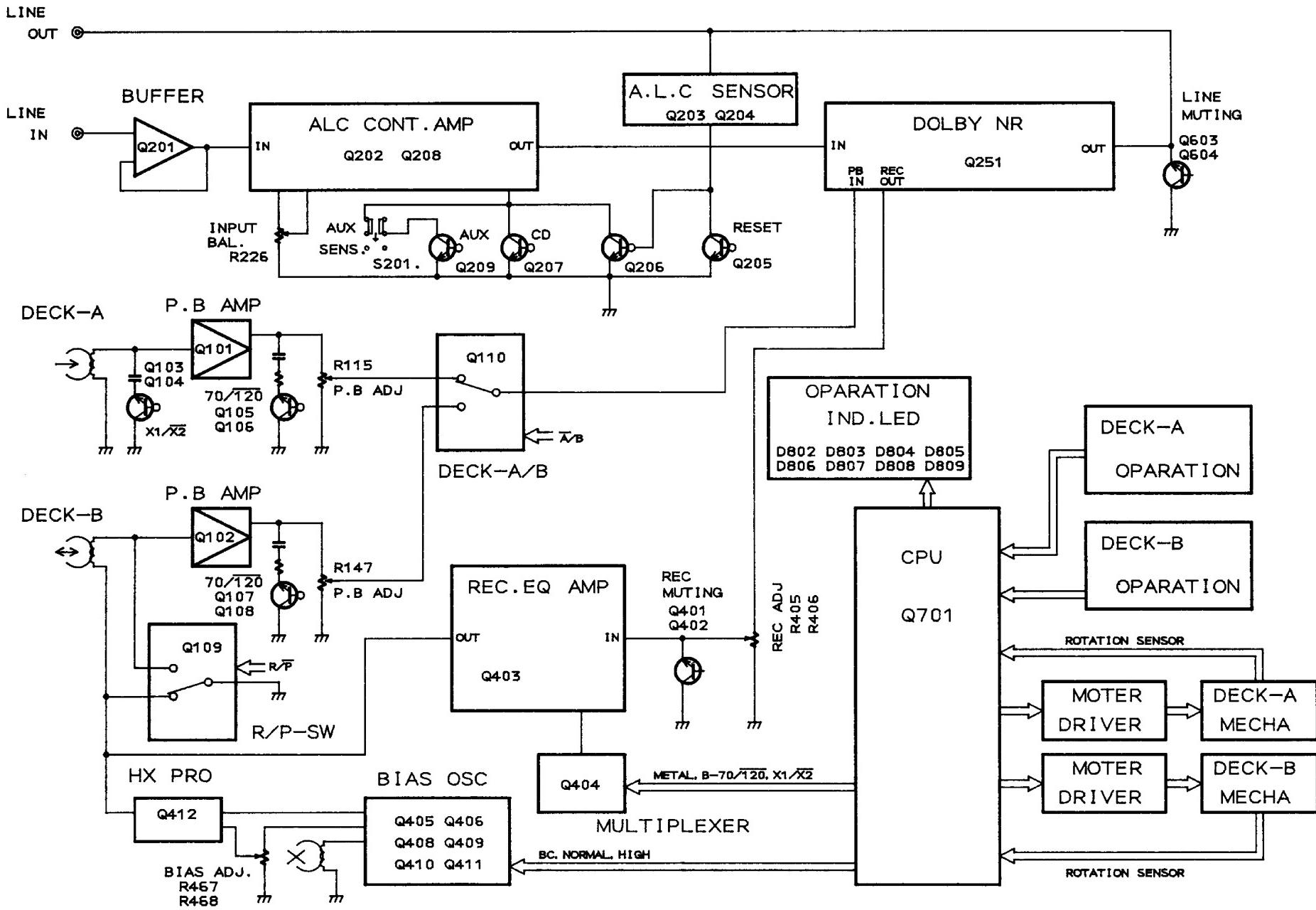
Weight: 4.6kg. (10.1lbs.)

**SPECIFICATIONS**

Track System:	4-tracks, 2-channels
Erasing System:	AC erase
Tape Speed:	4.8 cm/sec. (1-7/8 i.p.s.) 9.6 cm/sec. (3-3/4 i.p.s.) (high speed dubbing)
Wow and Flutter:	0.095% (WRMS)
Frequency Response:	20 ~ 15,000Hz (Normal) (30 ~ 14,000Hz ±3dB) 20 ~ 16,000Hz (High) (30 ~ 15,000Hz ±3dB)

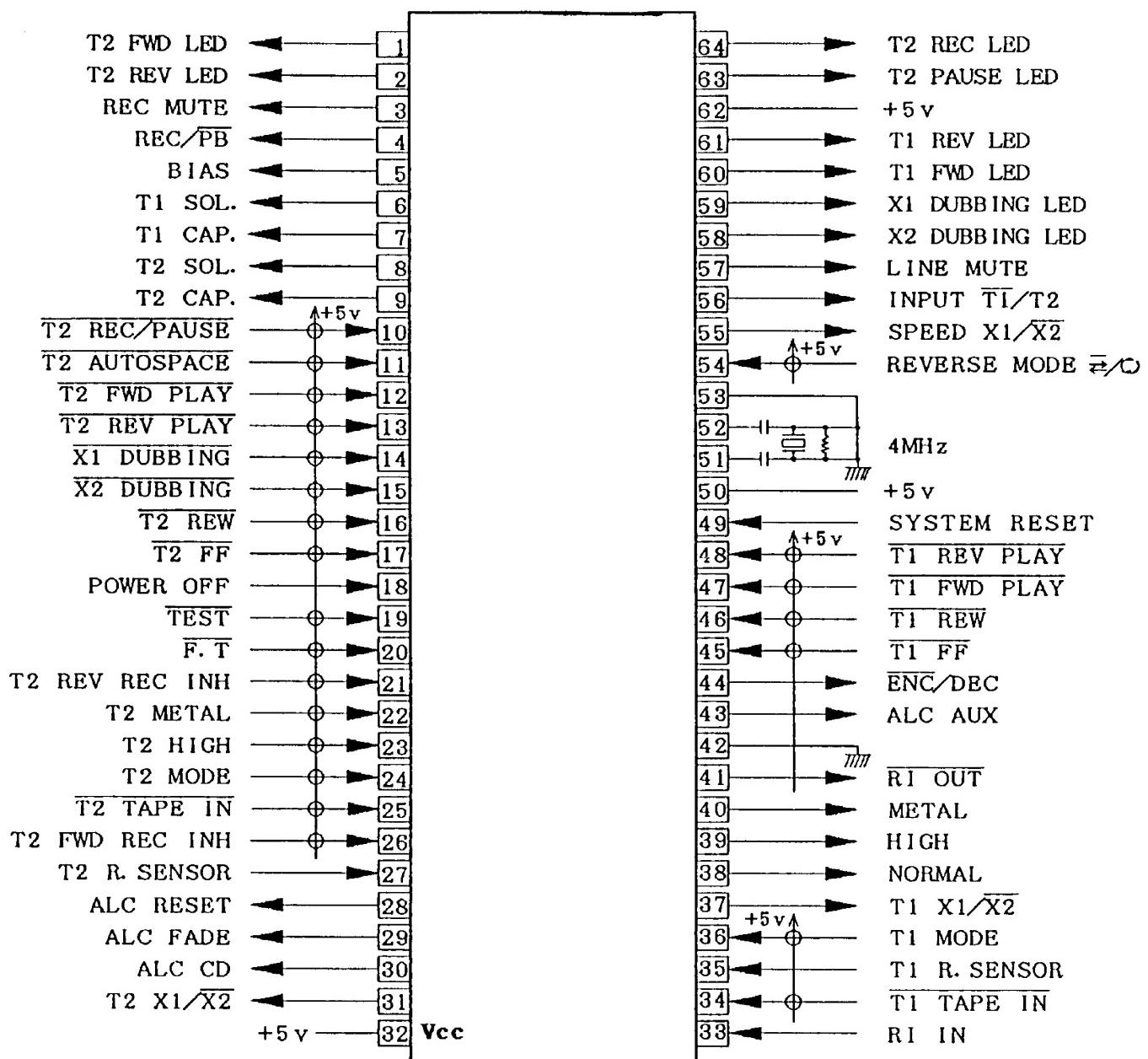
**ONKYO.**  
**AUDIO COMPONENTS**

## BLOCK DIAGRAM



# MICROCOMPUTER

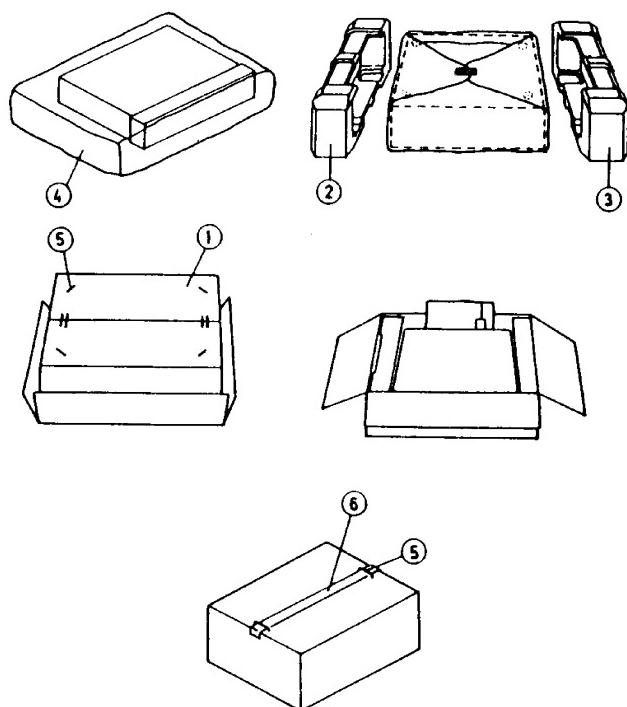
HD614089SD06



## MICROCOMPUTER TERMINAL DESCRIPTION

Port No.	Name	In/Out	Function	Port No.	Name	In/Out	Function
1	T2 FWD LED	OUT	FWD play indication	32	Vcc		+ 5 V
2	T2 REV LED	OUT	REV play indication	33	RI IN	IN	RI cord input
3	REC MUTE	OUT	Recording muting: H	34	T1 TAPE IN	IN	Cassete tape lording detection
4	REC/PB	OUT	Recording/play back selection	35	T1 R. SENSOR	IN	Reel rotation sensor
5	BIAS	OUT	Bias oscillator contorol	36	T1 MODE	IN	Mechanism position sensor, STOP: H
6	T1 SOLENOID	OUT	Solenoid drive contorol	37	T1 X1/X2	OUT	Normal/high speed selection
7	T1 CAPSTAN	OUT	Capstan motor contorol	38	NORMAL	OUT	Normal tape: H
8	T2 SOLENOID	OUT	Solenoid drive contorol	39	HIGH	OUT	High tape: H
9	T2 CAPSTAN	OUT	Capstan motor contorol	40	METAL	OUT	Metal tape: H
10	T2 REC/PAUSE	IN		41	RI OUT	OUT	RI cord output
11	T2 AUTOSPACE	IN		43	ALC AUX	OUT	Recording sensitivity, AUX with: H
12	T2 FWD PLAY	IN		44	ENC/DEC	OUT	Dolby ENC/DEC selection
13	T2 REV PLAY	IN	Key input	45	T1 FF	IN	
14	X1 DUBBING	IN		46	T1 REW	IN	Key input
15	X2 DUBBING	IN		47	T1 FWD PLAY	IN	
16	T2 REW	IN		48	T1 REV PLAY	IN	
17	T2 FF	IN		49	SYSTEM RESET	IN	System micon reset
18	POWER OFF	IN	Power off detection	50	TEST		
19	TEST			51, 52	OSC		Clock oscillator 4.00MHZ
20	F. T			53	GND		
21	T2 REV REC INH	IN	REV recording prevention: H	54	REVERSE MODE	IN	Reverse mode selection
22	T2 METAL	IN	Metal tape detection	55	SPEED X1/X2	OUT	Normal/High speed equalizer selection
23	T2 HIGH	IN	High tape detection	56	INPUT T1/T2	OUT	Playback signal T1/T2
24	T2 MODE	IN	Mechanism position sensor, stop: H	57	LINE MUTE	OUT	Line muting: H
25	T2 TAPE IN	IN	Cassete tape lording detection: L	58	X2 DUBBING LED	OUT	High speed dubbing indication
26	T2 FWD REC INH	IN	FWD recording prevention: H	59	X1 DUBBING LED	OUT	Normal speed dubbign indication
27	T2 R. SENSOR	IN	Reel rotation sensor	60	T1 FWD LED	OUT	FWD play indication
28	ALC RESET	OUT	ALC reset: H	61	T1 REV LED	OUT	REV play indication
29	ALC FADE	OUT	Fade out, supper dubbing with: H	63	T2 PAUSE LED	OUT	Pause indication
30	ALC CD	OUT	Recording sensitivty, CD with: H	64	T2 REC LED	OUT	Recording indication
31	T2 X1/X2	OUT	Normal/high speed selection				

## PACKING VIEW



## PART LIST

REF NO.	PART NO.	DESCRIPTION
1	29052437Y 29052436Y	Carton box (Black model) Carton box (Silver model )
2	29091583	Pad(F)
3	29091584	Pad(B)
4	29100037AY 29355187Y 29341754Y	Poly bag Instruction sheet(D) Instruction sheet(P) Put on the Top cover them fix by FIXLON TAPE
5	282301	Sealing hook
6	2911007-1	Damplon tape
<b>Accessory</b>		
	29365029 29365019A 29358002J 29365024A 291000107 29365020F 2910094A	Warranty card (Q) Warranty card (N) Service stration list(N) Warranty card (F) Poly bag Warranty card(V) Poly bag

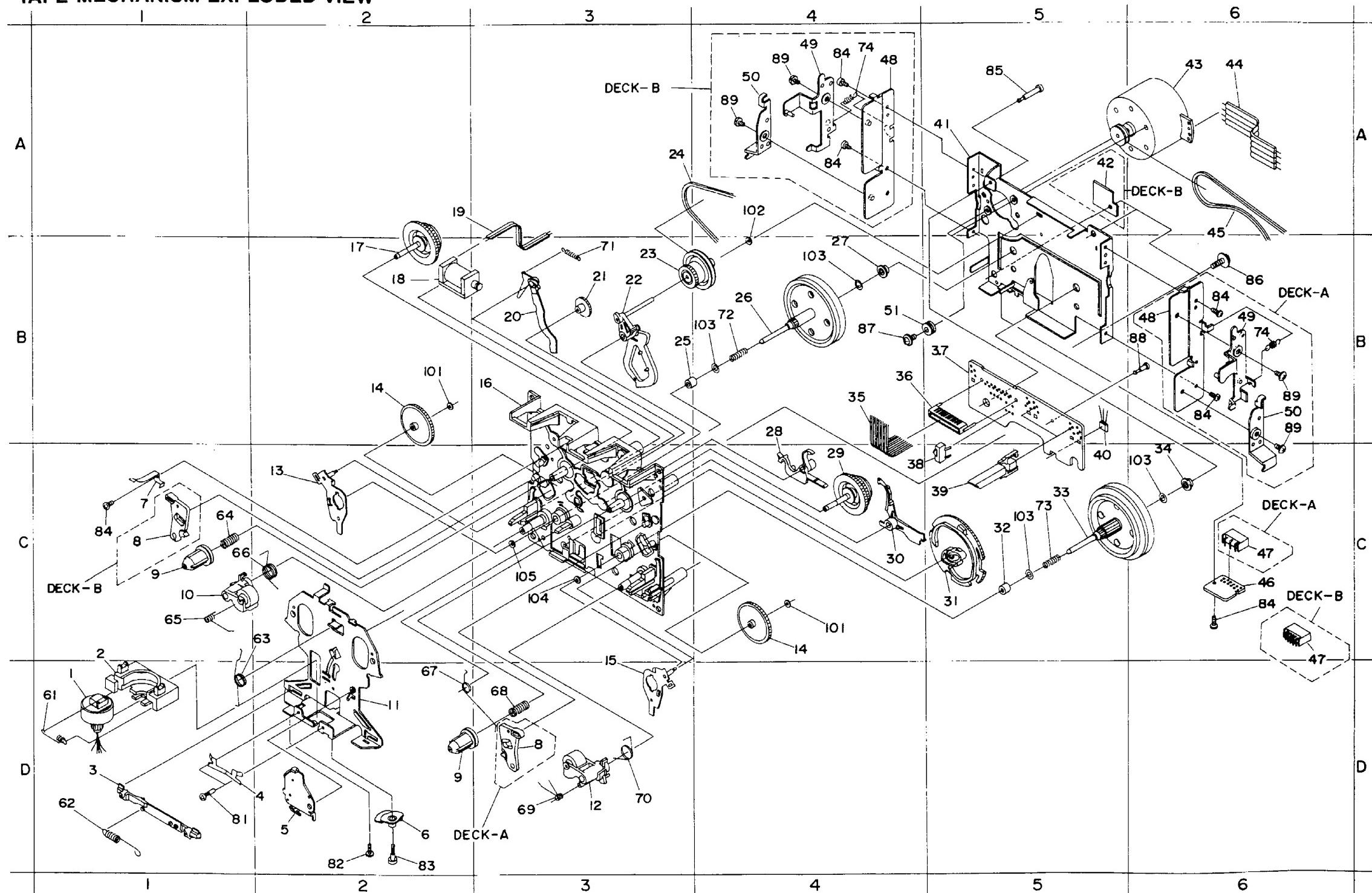
### NOTE

- (V):Only Germany model
- (Q):Only Australian model
- (N):Only U.S.A model
- (F):Only France model
- (D):Only 120V model
- (P):Only 230V model
- (B):Black model
- (S):Silver model

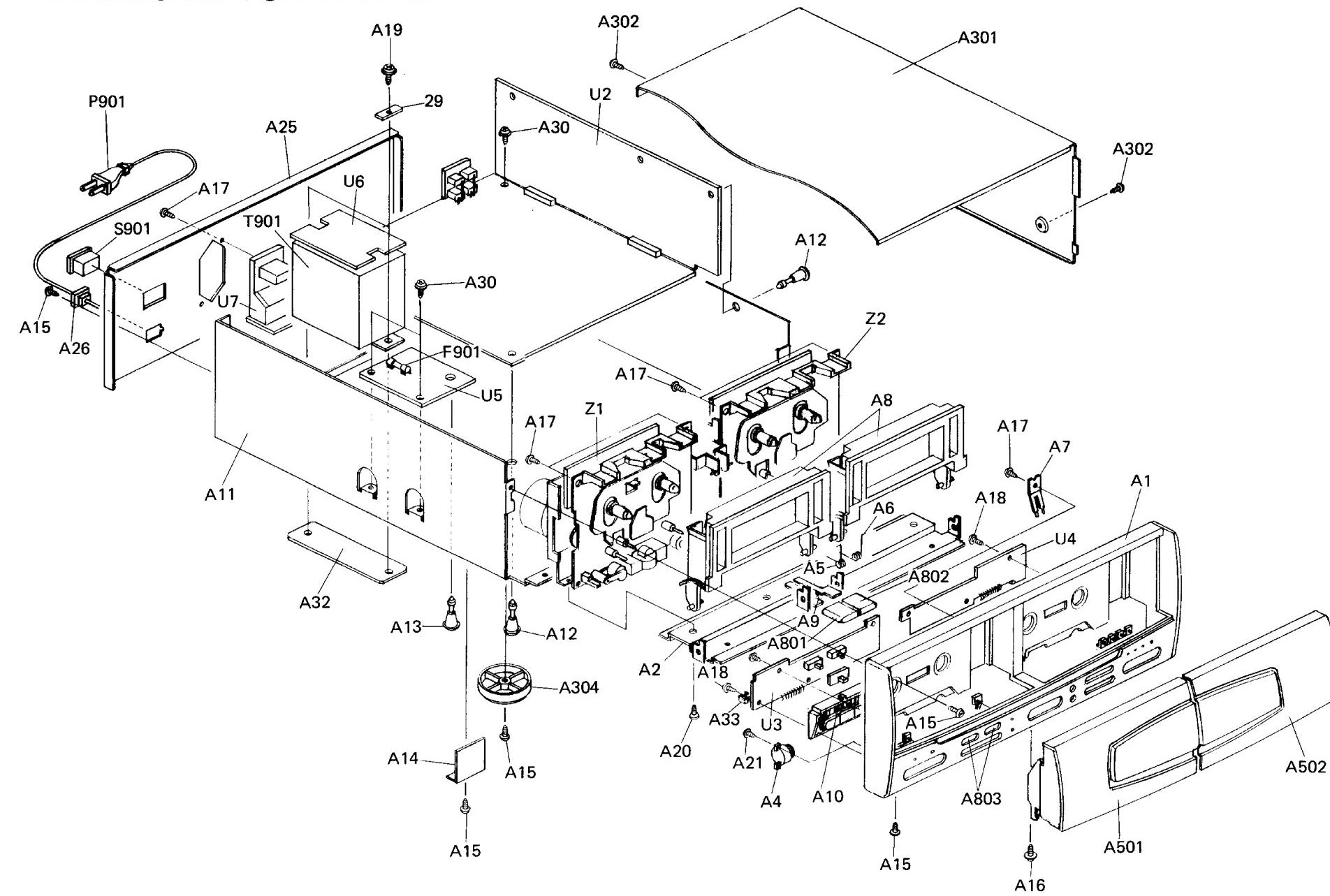
## TAPE MECHNISM PARTS LIST

REF.NO.	ADDRESS	PARTS NO.	DESCRIPTION	REF.NO.	ADDRESS	PARTS NO.	DESCRIPTION
1	1-D	24600115	HEAD AS (DECK-A)	51	4-B	24611559	CUSHION
		24600116	HEAD AS (DECK-B)	61	1-D	24605771	SPRING
2	1-D	24611530	FRAME (HEAD)	62	1-D	24605772	SPRING
3	1-D	24611531	LEVER (HEAD)	63	2-C	24605773	SPRING
4	1-D	24605734	SPRING (AZIMUTH)	64	1-C	24605774	SPRING
5	2-D	24607122	ARM AS (ASSIST)	65	1-C	24605775	SPRING
6	2-D	24602555	ARM (HEADGEAR)	66	1-C	24605776	SPRING
7	1-C	24605770	SPRING (CASSETTE)	67	2-D	24605777	SPRING
8	1-C,3-D	24611541	LOCKER (EJECT)	68	3-D	24605778	SPRING
9	1-C,2-D	24602556	CAP (REEL)	69	3-D	24605779	SPRING
10	1-C	24602557	PINCH ROLLER AS (L)	70	3-D	24605780	SPRING
11	2-D	24611532	CHASSIS (HEAD)	71	3-B	24605781	SPRING
12	3-D	24602558	PINCH ROLLER AS (R)	72	4-B	24605722	SPRING
13	2-C	24607123	ARM AS (PLAY)L	73	5-C	24605782	SPRING
14	2-B,4-C	24602559	GEAR (PLAY)	74	4-A,6-B	24605783	SPRING
15	3-D	24607124	ARM AS (PLAY)R	81	1-D	24609021	SCREW
16	3-B	24611533	CHASSIS (MECHANISM)	82	2-D	838120060	SCREW 2×6
17	2-B	24602560	SUB REEL AS (L)	83	2-D	24609024	SCREW
18	2-B	24606499	SOLENOID COIL	84	4-A,6-B	833120047	SCREW 2TTP+4S
19	3-A	24606500	WIRE	85	5-A	24609059	SCREW
20	3-B	24607125	ARM (RVS)	86	6-B	831126080	TP SCREW
21	3-B	24602565	GEAR (F.F.)	87	4-B	24609067	SCREW (MOTOR)
22	3-B	24607128	ARM AS (FR)	88	6-B	833126080	TAP-TIGHT SCREW 2.6+8
23	3-B	24602562	PULLEY AS (FR)	89	4-A,6-B	24609061	SCREW
24	3-A	24602563	BELT (FR)	101	2-B,4-C	24611542	WASHER
25	3-B	24602566	METAL	102	4-A	24611543	WASHER
26	4-B	24602568	FLY WHEEL AS (L)	103	4-B,5-C	24611544	WASHER
27	4-B	24602511	METAL	104	3-C	24611545	WASHER
28	4-B	24607126	ARM (BRAKE)	105	3-C	24611546	WASHER
29	4-C	24602561	SUBREEL AS (R)				
30	4-C	24607127	ARM (TRIGGER)				
31	5-C	24602570	CAMGEAR				
32	5-C	24602567	METAL				
33	5-C	24602569	FLY WHEEL AS (R)				
34	6-C	24602510	METAL				
35	4-B	24606505	WIRE [DECK-A]				
		24606506	WIRE [DECK-B]				
36	4-B	24606508	HOLDER (WIRE)				
37	5-B	24606501	P.C.B.				
38	4-C	24606502	SWITCH (MODE)				
39	5-C	24606376	LEAF SWITCH				
40	5-C	24606503or 24606513	DN6851Aor LB9051A,HOLE I.C.				
41	5-A	24607129A	BRACKET (FW)				
42	5-A	24611560	PLATE [DECK-B]				
43	6-A	24601272	MOTOR AS				
44	6-A	24606507	WIRE				
45	6-A	24602564	MAIN BELT <i>24602564</i>				
46	6-C	24606504	P.C.B.				
47	6-C	25055234 25055237	NPLG-3P218 [DECK-A] NPLG-6P221 [DECK-B]				
48	4-A,6-B	24611536 24611535	PLATE (EJECT) R [DECK-A] PLATE (EJECT) L [DECK-B]				
49	4-A,6-B	24611538 24611537	ARM (EJECT) R [DECK-A] ARM (EJECT) L [DECK-B]				
50	4-A,6-B	24611540 24611539	ARM (PUSH) R [DECK-A] ARM (PUSH) L [DECK-B]				

## TAPE MECHANISM-EXPLODED VIEW



## **CHASSIS-EXPLODED VIEW**



K-W30

# CHASSIS-EXPLODED VIEW PARTS LIST

REF.NO.	PARTS NO.	DESCRIPTION	REF.NO.	PARTS NO.	DESCRIPTION	
A1	27110716Y	FRONT BRACKET AS [S]	A502a	27301605B	CASSETTE LID (T2) [S]	
	27110717Y	FRONT BRACKET AS [B]		27301607B	CASSETTE LID (T2) [B]	
A1b	28198784Y	FACET (L)	A502b	27301609AY	CASSETTE LID (R) [S]	
A1c	28198786AY	FACET (R)		27301611AY	CASSETTE LID (R) [B]	
A1d	28198785Y	FACET (MD)	A502c	28191635Y	CLEAR PLATE (R) [S]	
A2	27130700BY	BRACKET (F)		28191643Y	CLEAR PLATE (R) [B]	
A4	28400520	DAMPER	A801	28324653AY	KNOB (EJ-A) [S]	
A5	271803322	SPRING (A)		28324645AY	KNOB (EJ-A) [B]	
A6	271803332AY	SPRING (B)	A802	28324654AY	KNOB (EJ-B) [S]	
A7	27301617AY	SPRING (EJ)		28324652AY	KNOB (EJ-B) [B]	
A8	27301612Y	FRAME AS (CASSETTE)	A803	28324646AY	KNOB (DOL) [S]	
A8a	27301603Y	FRAME (CASSETTE)		28314655AY	KNOB (DOL) [B]	
A8b	27180435Y	SPRING	P101A	2009900246	NSAS-6P0354 (DECK-A CONNECTION CORD)	
A9	27141556Y	BRACKET (EJ)	P102A	2009900248	NSAS-14P0355 (DECK-B CONNECTION CORD)	
A10	28324647AY	KNOB [S]	S901	△ 25065340Y	NSS-0001	
	28324648AY	KNOB [B]	F901	△ 252075Y	2.5A-SE-EAK [P]	
A11	27100260AY	CHASSIS	P901	△ 253173Y	AC CORD AS-UC-7#18 [D]	
A12	27190266	HOLDER		△ 253164Y	AC CORD AS-CEE [P/W]	
A13	27190657	HOLDER		△ 253170	AC CORD AS-SAA [Q]	
A14	27141339	BRACKET (SLD)	T901	△ 2300840-2Y	NPT-1153D [D]	
A15	834430088	TAP-TIGHT SCREW 3TTS+8BBC		△ 2300841-1Y	NPT-1153P [P]	
A16	831130088	TAP-TIGHT SCREW 3TTW+8B		△ 2300842-1Y	NPT-1153DG [W]	
A17	833430080	TAP-TIGHT SCREW 3TTP+8PBC		△ 2300843-1Y	NPT-1153Q [Q]	
A18	833426080	TAP-TIGHT SCREW 2.6TTP+8P	U1	1N132548-1	NAAR-4548	
A19	830440109	TAP-TIGHT SCREW 4TTC+10CB	U2	1N132549-1	NAAR-4549	
A20	835430068	TAP-TIGHT SCREW 3TTF+6BBC	U3	1N132550-1	NASW-4550	
A21	833420108	TAP-TIGHT SCREW 2TTP+10BB	U4	1N132551-1	NASW-4551	
A25	27121603AY	REAR PANEL [D]	U5	1N132552-1	NAPS-4552 [D]	
	27121608AY	REAR PANEL [P]		1N132552-1A	NAPS-4552A [P]	
	27121609AY	REAR PANEL [W]		1N132552-1B	NAPS-4552B [Q]	
	27121610AY	REAR PANEL [Q]		1N132552-1C	NAPS-4552C [W]	
A26	27300750	BUSHING (CORD)	U6	1N132553-1	NAPS-4553	
A29	870065	WASHER (PT)	U7	1N132554-1	NAETC-4554	
A30	831430088	TAP-TIGHT SCREW 3TTW+8BBC	U8	1N132555-1	NAETC-4555 [P]	
A32	27262560Y	PLATE (P.T.)	U9	1N132556-1	NAETC-4556 [W]	
A33	27190905	HOLDER (MB-2)	Z1	244169-1	CASSETTE DECK-A MECHANISM, NDM-159	
A301	28184521AY	TOP COVER	Z2	244170-1	CASSETTE DECK-B MECHANISM, NDM-160	
A302	838430088	TAP-TIGHT SCREW 3TTB+8BBC	NOTE : [S]:Silver model [B]:Black model [D]:120V model [P]:230V model [Q]:240V model [W]:Worldewide model			
A304	2717525Z-1A	LEGAS				
A501	27301613Y	CASSETTE LIDAS (T1) [S]				
	27301615Y	CASSETTE LIDAS (T1) [B]				
A501a	27301604B	CASSETTE LID (T1) [S]				
	27301606B	CASSETTE LID (T1) [B]				
A501b	27301608AY	CASSETTE LID (L) [S]				
	27301610AY	CASSETTE LID (L) [B]				
A501c	28191634Y	CLEAR PLATE (L) [S]				
	28191642Y	CLEAR PLATE (L) [B]				
A502	27301614Y	CASSETTE LIDAS (T2) [S]				
	27301616Y	CASSETTE LIDAS (T2) [B]				

NOTE :  
 [S]:Silver model  
 [B]:Black model  
 [D]:120V model  
 [P]:230V model  
 [Q]:240V model  
 [W]:Worldewide model

NOTE: THE COMPONENTS IDENTIFIED BY MARK △ ARE CRITICAL FOR RISK OF FIRE AND ELECTRIC SHOCK. REPLACE ONLY WITH PART NUMBER SPECIFIED.

# PRINTED CIRCUIT BOARD – PARTS LIST

NAAR-4548

CIRCUIT NO.	PART NO.	DESCRIPTION	CIRCUIT NO.	PART NO.	DESCRIPTION
<b>Ics</b>					
Q201	22240368	M5218AL	C201,C202	354780109	1 $\mu$ F50V,ELECT.
Q202	22240256	M51131L	C203-C206	354741009	10 $\mu$ F16V,ELECT.
Q412	222959	$\mu$ PC1297CA	C209	354742209	22 $\mu$ F16V,ELECT.
Q701	22240617	HD614089SD06	C211,C212	354780229	2.2 $\mu$ F50V,ELECT.
Q901	222780125MIT	78M12	C213,C214	354721019	100 $\mu$ F6.3V,ELECT.
Q902	222780055MIT	78M05	C410	354724719	470 $\mu$ F6.3V,ELECT
			C413	354742219	220 $\mu$ F16V,ELECT.
<b>Transistors</b>					
Q203,Q204	2213285 or 2213284	2SC1740S-S or 2SC1740S-R	C416	370131234	0.012 $\mu$ F100V,APS
Q205	221281	DTC114YS	C418	354780229	2.2 $\mu$ F50V,ELECT.
Q206	2213285 or 2213284	2SC1740S-S or 2SC1740S-R	C429,C430	370131214	120PF100V,APS
Q207	221281	DTC114YS	C431	354744709	47 $\mu$ F16V,ELECT.
Q208	2212600	DTA124ES	C433	353741009	10 $\mu$ F16V,ELECT.
Q209	221281	DTC114YS	C601	354780479	4.7 $\mu$ F50V,ELECT.
Q405	221281	DTC114YS	C701	354780109	1 $\mu$ F50V,ELECT.
Q406	2212853 2212855	2SB1068-K 2SB1068-U	C705	354780479	4.7 $\mu$ F50V,ELECT.
Q408,Q409	221281	DTC114YS	C708	354762209	22 $\mu$ F35V,ELECT.
Q410,Q411	2211544	2SC1959-Y	C709	354780479	4.7 $\mu$ F50V,ELECT.
Q601	221281	DTC114YS	C710	354780109	1 $\mu$ F50V,ELECT.
Q602	2213355 or 2213354	2SA933S-S or 2SA933S-R	C901	393152227S	2200 $\mu$ F25V,ELECT.
Q603,Q604	2211706 or 2211705	2SD655-F or 2SD655-E	C902	393156827S	6800 $\mu$ F25V,ELECT.
Q702-Q705	221281	DTC114YS	C905	354744719	470 $\mu$ F16V,ELECT.
Q706-Q709	2212853 or 2212855	2SB1068-K or 2SB1068-U	C907	354780109	1 $\mu$ F50V,ELECT.
Q710	221281	DTC114YS	C908	354741019	100 $\mu$ F16V,ELECT.
Q711	2213355 or 2213354	2SA933S-S or 2SA933S-R	C910,C911	354744709	47 $\mu$ F16V,ELECT.
Q712	221281	DTC114YS	C912	354741029	1000 $\mu$ F16V,ELECT.
Q713-Q715	2213355 or 2213354	2SA933S-S or 2SA933S-R	C914	354741019	100 $\mu$ F16V,ELECT.
Q716	2212600	DTA124ES	C915	354780479	4.7 $\mu$ F50V,ELECT.
Q903	2202115 or 2202116	2SD2061-E or 2SD2061-F	C917	354762209	22 $\mu$ F35V,ELECT.
Q904	2213285 or 2213284	2SC1740S-S or 2SC1740S-R	C918	353741009	10 $\mu$ F16V,ELECT.
<b>LED</b>					
D201,D906	225227	SLV-31VC	R226	5210068	N06HR47KBD
<b>Diodes</b>					
D601-D603	223163	ISS133	R467,R468	5210064	N06HR10KBD
D701	223124, 223150 or 223145	1S2473, US1040 or 1S2076TD	R475	442525604F	RS1/2WBJ56 $\Omega$
D702-D712	223163	ISS133	R702	49163392407	3.9K $\Omega$ X 7,1/10W
D713	224150683	05AZ6.8Z	R703	49163472415	4.7K $\Omega$ X 15,1/10W
D714	223163	ISS133	R721,R722	5210064	N06HR10KBD
D715	224150562	05AZ5.6Y	R727,R728	5210064	N06HR10KBD
D716	223163	ISS133	R738	442524714F	RS1/2WBJ470 $\Omega$
D901,D904	22380046 or 22380035	AM01Z or GP104003E	R901	441723304F	RS2WBJ33 $\Omega$
D905	223163	ISS133	R902	442520474F	RS1/2WBJ4.7 $\Omega$
D906	225227	SLV-31VC	S201	25065414	NSS-22155
D907	224151303	05AZ13Z			
<b>Coils</b>					
L403,L404	231127	NCH-4183	P201	25045329	NPS-4PDBL183
L405	231063	NLO-2037	P202	25055509	NPLG-13P484
<b>Ceramic OSC</b>					
X701	3010150	CST4.00MGW	P203	25055505	NPLG-3P480
<b>Plugs,Socket</b>					
P204	25055509	NPLG-13P484			
P205	25055532	NPLG-2P116			
P206	25055530	NPLG-13P484			
P207	25055157	NPLG-13P141			
P208	25055158	NPLG-14P142			
P209	25055632	NPLG-11P594			
P210	25055634	NPLG-13P596			
<b>Miscellaneous</b>					
27160211-1	27141059	RAD-68B,RADIATOR BRACKET			

**NAAR-4549**

CIRCUIT NO.	PART NO.	DESCRIPTION
<b>Ics</b>		
Q101,Q102	222905	$\mu$ PC1228HA
Q109	22240147	$\mu$ PC1330HA
Q110	222933	BU-4066B
Q251	22240388	HA12142NT
Q403	22240267	CXA1198AP
Q404	222840511	4051B
<b>Transistors</b>		
Q103-Q108	221299	DTC114TS
Q111,Q112	221282	DTC144ES
Q252	221281	DTC114YS
Q401,Q402	2213285 or 2213284	2SC1740S-S or 2SC1740S-R
<b>Coils</b>		
L201,L202	233407	NMC-6079
L401,L402	231165	NTR-6506
<b>Capacitors</b>		
C107,C108	354780229	2.2 $\mu$ F50V,ELECT.
C111,C112	354741019 or 354721019	100 $\mu$ F16V,ELECT. or 100 $\mu$ F6.3V,ELECT.
C135,C136	354780229	2.2 $\mu$ F50V,ELECT.
C139,C140	354741019 or 354721019	100 $\mu$ F16V,ELECT. or 100 $\mu$ F6.3V,ELECT.
C251,C252	354780229	2.2 $\mu$ F50V,ELECT.
C257,C258	354780229	2.2 $\mu$ F50V,ELECT.
C265,C266	354741019	100 $\mu$ F16V,ELECT.
C267	354742209	22 $\mu$ F16V,ELECT.
C268	354780109	1 $\mu$ F50V,ELECT.
C270,C271	354741009	10 $\mu$ F16V,ELECT.
C401,C402	354780109	1 $\mu$ F50V,ELECT.
C403,C404	354780479	4.7 $\mu$ F50V,ELECT.
C405,C406	354741019	100 $\mu$ F16V,ELECT.
C407-C409	354780479	4.7 $\mu$ F50V,ELECT.
C917	354744719	470 $\mu$ F16V,ELECT.
C918	354741019	100 $\mu$ F16V,ELECT.
C919	354741029S	1000 $\mu$ F16V,ELECT.
C920	354741019	100 $\mu$ F16V,ELECT.
<b>Resistors</b>		
R115,R116	5210244	N06HR47KBE
R147,R148	5210244	N06HR47KBE
R405,R406	5210240	N06HR10KBE
<b>Plug</b>		
P101	25055133	NPLG-3P117
P102	25055136	NPLG-6P120

**NASW-4550**

CIRCUIT NO.	PART NO.	DESCRIPTION
<b>LED</b>		
D802,D803	225256B, 225256C or 225256D	SEL3410E-B SEL3410E-C or SEL3410E-D
D804,D805	225255B, 225255C or 225255D	SEL3110S-B, SEL3110S-C or SEL3110S-D
<b>Switch</b>		
S801-S805	25035570	NPS-111-S532
S806	25065344	NSS-12134
S807	25065346	NSS-13135
<b>Socket</b>		
P702A	2006392630	NSAS-26P0352

**NASW-4551**

CIRCUIT NO.	PART NO.	DESCRIPTION
<b>LED</b>		
D806	225256B, 225256C or 225256D	SEL3410E-B, SEL3410E-C or SEL3410E-D
D807	225255B, 225255C or 225255D	SEL3110S-B, SEL3110S-C or SEL3110S-D
D808	225256B, 225256C or 225256D	SEL3410E-B, SEL3410E-C or SEL3410E-D
D809	225255B, 225255C or 225255D	SEL3110S-B, SEL3110S-C or SEL3110S-D
<b>Switch</b>		
S808-S816	25035570	NPS-111-S532
<b>Socket</b>		
P703A	2006342830	NSAS-28P0361
<b>Capacitor</b>		
C951	3500065A	0.01 $\mu$ F,AC400V/125V
<b>NAETC-4554</b>		
CIRCUIT NO.	PART NO.	DESCRIPTION
P901	25050684	NSCT-2P488,AC SOCKET
<b>NAETC-4555</b>		
CIRCUIT NO.	PART NO.	DESCRIPTION
P902	25050410	NSCT-2P235,AC SOCKET
<b>NAETC-4556</b>		
CIRCUIT NO.	PART NO.	DESCRIPTION
S903	25065437	NSS-22157P,SWITCH
<b>NAPS-4552A</b>		
CIRCUIT NO.	PART NO.	DESCRIPTION
	25050065	YSH403T,FUSE HODER

## ADJUSTMENT PROCEDURES

### PRECAUTIONS

1. Before adjustment, clean the following parts with an alcohol moistened cloth.

- \* record/play back head      \* erase head
- \* pinch roller                  \* capstan

2. Do not use magnetized screwdriver for adjustments.

3. Demagnetize record/playback head with a lead demagnetizer.

### TEST EQUIPMENT/TOOLS REQUIRED:

Audio oscillator

Digital frequency counter

Oscilloscope

Attenuator

AC voltmeter

Non-magnetic screw driver

Test tapes

TCC-153 : 10KHz, -15dB

MTT-111 : 3kHz, -10dB

MTT-150 : Dolby level calibration

400Hz, tone 200nWb/m

Item		Connection of instrument	Line input	Test tape	Mode	Output indicator	Adjustment point	Adjust	Remarks
1	Tape speed	Frequency counter to LINE output terminal		MTT-111	PB	Frequency counter	DECK-A H.SP. R722 N.SP. R721 DECK-B H.SP. R728 N.SP. R727	DECK-A 6010±10Hz 3005± 5Hz DECK-B 6010±10Hz 3005± 5Hz	High speed connect the FT terminal to GND. push the FWD button twice continuously. High speed first
2	Head azimuth	AC voltmeter and oscilloscope to LINE output terminal		TCC-153	PB	AC voltmeter	Head azimuth screw	Maximum and same phase at channels L and R	fig-1
3	Play-back level	AC voltmeter to terminals TP-1 and TP-2		MTT-150	PB	AC voltmeter	T1 R115(Ch.L) T1 R116(Ch.R) T2 R147(Ch.L) T2 R148(Ch.R)	300mV	
4	ALC balance	AC voltmeter to LINE OUT terminal	1KHz 210mV		REC/PAUSE	AC voltmeter	R226	Same level at ch.L and R	
5	OSC Block	Frequency counter to P401(E head) read loose coupling		METAL TAPE XS C60	REC	Frequency counter	L-405	85KHz (±1KHz)	
6	HX-PRO	AC voltmeter to R/P head side of R131, R132		METAL TAPE XS C60	REC	AC voltmeter	L-403, L404	Maximum	R-467 R-468 maximum
7	Bias current	fig-2	1KHz, -20dB and 12KHz, -20dB	XL-II C-90	REC/PB	AC voltmeter	R467(Ch.L) R468(Ch.R)	Same level at REC/PB	Input VR maximum
8	Record level	fig-2	1KHz	XL-II C-90	REC	AC voltmeter	Attenuator or AF OSC output	350mV	
					REC/PB	AC voltmeter	R405(Ch.L) R406(Ch.R)	Same level at REC/PB	

Black tape

NORMAL.....UD-1 C-90

HIGH.....XL-II C-90

METAL.....XS-C60

PLAY torque .....35~70g/cm

FF.REW torque.....80~170g/cm

Back tension ..... 2~6g/cm

K-W30

## ADJUSTMENT POINT

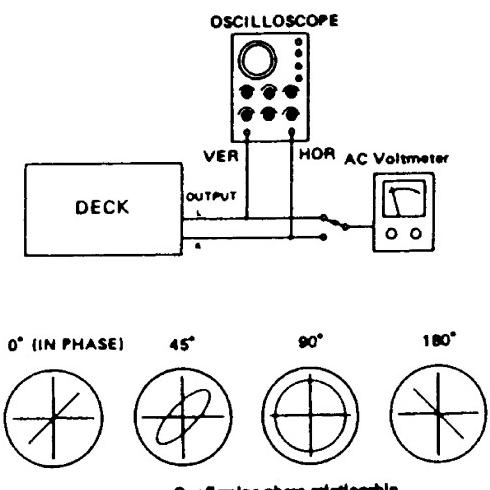
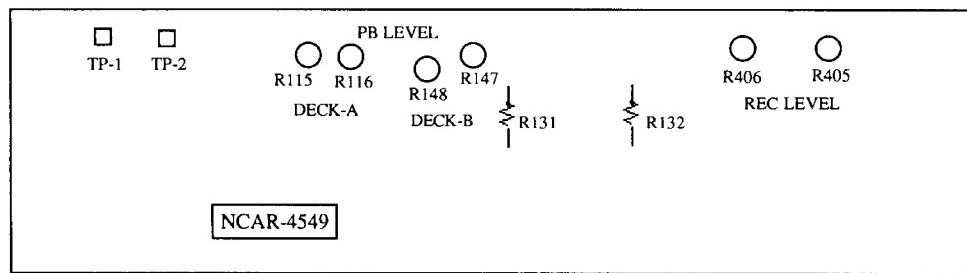
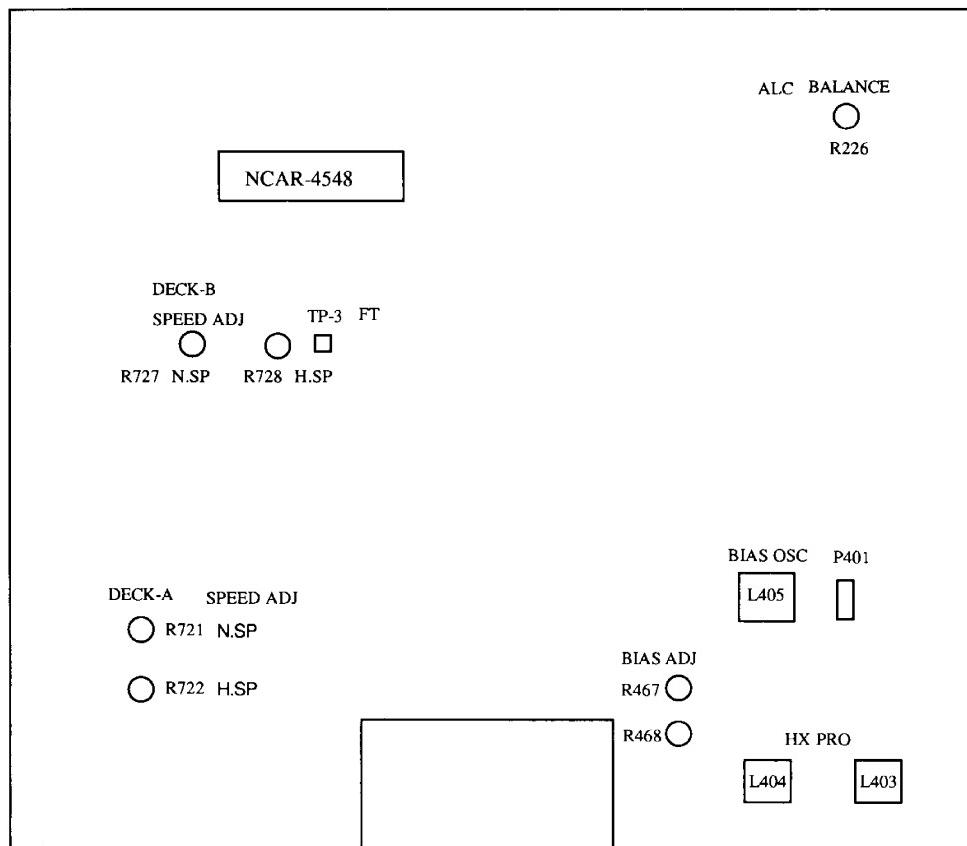


fig-1

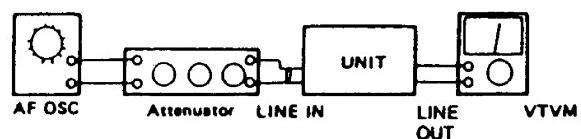


fig-2

4

1

8

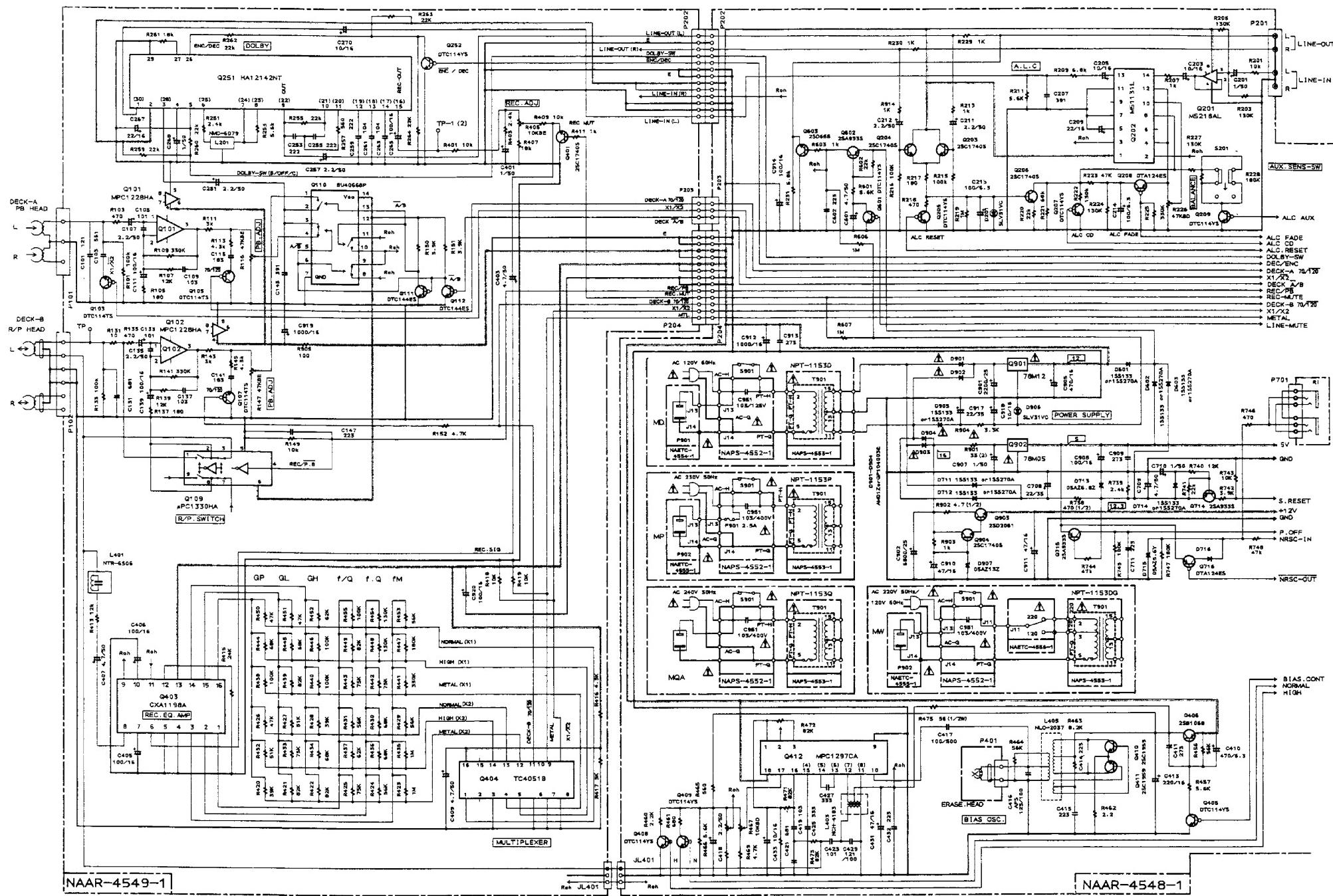
D

E

F

G

## **SCHEMATIC DIAGRAM (1/2)**



A

1

C

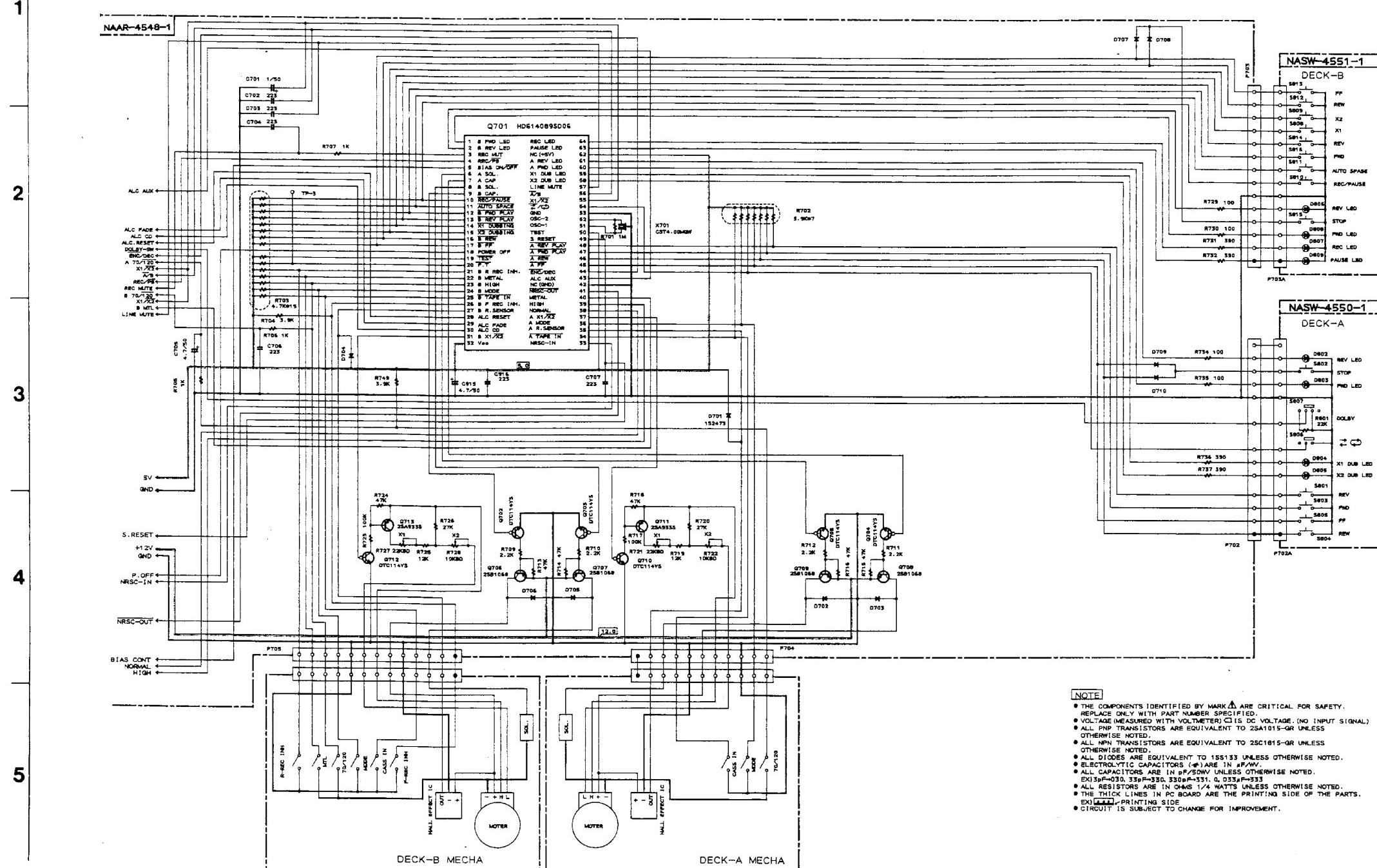
D

F

E

6

## **SCHEMATIC DIAGRAM (2/2)**

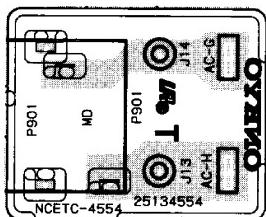


NOT

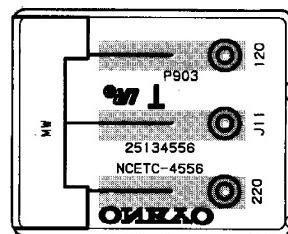
- THE COMPONENTS IDENTIFIED BY MARK **A** ARE CRITICAL FOR SAFETY. REPLACE ONLY WITH PART NUMBER SPECIFIED.
  - ALL DIODES (WITH VOLT METER SYMBOL) C13 IS DC VOLTAGE. (NO INPUT SIGNAL)
  - ALL PNP TRANSISTORS ARE EQUIVALENT TO 2SA1015-QR UNLESS OTHERWISE NOTED.
  - ALL NPN TRANSISTORS ARE EQUIVALENT TO 2SC5165-QR UNLESS OTHERWISE NOTED.
  - ALL DIODES ARE EQUIVALENT TO 1SS133 UNLESS OTHERWISE NOTED.
  - ELECTROLYTIC CAPACITORS. (-) ARE IN #FWV.
  - ALL CAPACITORS ARE IN  $\mu\text{F}/50\text{V}$  UNLESS OTHERWISE NOTED.
  - EX) 0.001 $\mu\text{F}$  = 100 $\text{nF}$  = 330 $\text{pF}$  = 0.033 $\mu\text{F}$
  - RESISTORS ARE IN OHM AND WATTS UNLESS OTHERWISE NOTED.
  - THE THICK LINES IN PC BOARD ARE THE PRINTING SIDE OF THE PARTS.
  - EX) **PRINTING SIDE**
  - CIRCUIT IS SUBJECT TO CHANGE FOR IMPROVEMENT.

**K-W30**

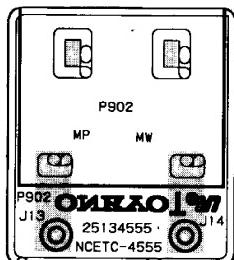
**NCETC-4554**



**NCETC-4556**



**NCETC-4555**



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